

# Western Washington Fisheries and Watershed Assessment Division



## Photos (top to bottom)

- Bull trout
- Summer chum broodstock capture
- Sea otter capture

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## Background

■ Since 1871, the Service has protected and enhanced fish populations and their habitats. Through partnerships, we work to conserve and restore the nation's aquatic resources for the long-term benefit of the public. We also provide technical expertise to ensure protection and conservation of fish populations and habitat.

## Who We Are

■ We are an integrated team of experienced fish and wildlife researchers, toxicologists, hatchery operation specialists, bio-statisticians, and support personnel. As a result of our diversity in technical expertise, we are able to explore a variety of factors affecting wild and hatchery fish and other aquatic resources. Our team is dedicated to the recovery and maintenance of our trust resources.

## Who We Serve

- Private citizens
- Cities
- Counties
- States
- Tribes
- Federal Agencies
- Other Service entities

## What We Do

■ *Field Assessments*  
Several innovative studies are currently underway in western Washington. These long-term projects are designed to explore salmonid habitat use. They also provide habitat and population assessments necessary in the management and recovery of our fish resources.

## *Habitat/Population Investigations*

- Use of nearshore marine habitat by bull trout
- Lake Washington and Cedar River Chinook salmon habitat studies
- Predation of sockeye salmon fry and juvenile Chinook salmon studies
- Fish use of stabilized river banks

## ■ *Hatchery Assistance and Evaluation*

In the rapidly evolving realm of fisheries management, we have increased the effectiveness of our hatchery evaluation system and have made outstanding progress on hatchery reforms. We are strengthening our ability to meet our goals of providing sustainable fisheries, avoiding or reducing impacts to wild salmon populations, and population recovery.

## *National Fish Hatchery Assistance*

- Threatened Lake Ozette sockeye recovery at Makah NFH
- Threatened Summer chum salmon recovery at Quilcene NFH

## *Harvest Management Assistance*

- Technical support and population modeling and assessments for Pacific Salmon Treaty activities
- Tagging and marking hatchery fish for identification and tracking purposes

## ■ *Contaminant Investigations*

The effects of contaminants such as organic pesticides, heavy metals and other contaminants on fish and other animal populations can be severe. Our staff, often in partnership with other agencies, are participating in several investigations which explore the effects of contaminants on various animal species and their habitats.

- Investigations of deformed osprey and prey in Everett Harbor
- Environmental contaminant analysis of sea otters and prey in coastal areas

### ■ *Long-term Monitoring Support*

We offer guidance and development assistance for monitoring plans and strategies to a variety of groups, through team or committee responsibilities. We are also directly involved in the monitoring of specific projects, including wildlife studies, restoration actions, and other projects.

- Washington State Comprehensive Monitoring Strategy
- Elliott Bay/Duwamish Restoration Program monitoring
- Bear River and Ellsworth Creek restoration monitoring
- Forest and Fish Report monitoring design



photo: USFWS

**Photo:** Duwamish River Estuary restoration site

## Frequently Asked Questions

### *How can salmon be endangered if I can still buy them at the grocery store?*

Most of the salmon found in grocery stores and other places are raised at fish farms, or were caught in areas where salmon populations are not threatened or endangered. Salmon are widely distributed along the western coast of North America. Negative impacts experienced by populations in one region may not be experienced by others that are geographically separated. As a result, certain populations of a salmon species may be listed as threatened or endangered, but the species as a whole is not considered threatened or endangered.

### *Why do we have Federal hatcheries?*

Most Federal hatcheries were created to fulfill tribal treaty obligations or to mitigate for losses of wild salmon caused by federal water projects. However, hatcheries are also becoming an indispensable tool for conservation and restoration of wild fish. We are responding to scientific advances and public interest by adapting many of our hatcheries to better meet this goal.

### *Are wild salmon and hatchery salmon different?*

Wild salmon have been uniquely shaped by natural forces to survive and reproduce in their home stream. Many hatcheries do not present the same rigors as stream life, and may produce fish that are not as genetically and behaviorally suited to life in the stream after several generations within the hatchery. Several of our hatcheries are being modified in ways that lessen this distinction.

### *Do human activities really affect salmon populations?*

Various fish species require certain habitat conditions in order to thrive. If we damage or remove part of their habitat, salmon and other fish populations may not be able to sustain themselves at the same level as before. There are many ways in which humans impact salmon habitat, including pollution, habitat destruction, and stream barriers that prevent salmon from returning to their spawning areas. We are currently studying other potential impacts of human activities on salmon populations, such as shading, stream flows, and shoreline armoring.

### *How can I help restore wild fish?*

Minimize your water and energy consumption wherever you can. Use only low phosphate detergents for all household purposes. Never dump materials in storm drains—especially household chemicals of any kind. Maintain native streamside vegetation. Fence livestock away from streams, wetlands or lakes. Get out and restore the habitat; volunteer regularly with local groups. Check local growth management plans for policies that reflect good practices.

### *Why are you investigating deformed osprey in Everett Harbor?*

Osprey are fish-eating birds, and they prey primarily on starry flounder and salmonids in Everett Harbor. These fish are being collected and analyzed to determine whether contaminants in the food chain are a cause of the various deformities that have been observed in local osprey populations. If so, further investigation of the sources of these contaminants and their effects on fish and their habitat will be necessary.

## Today's Hatcheries: A Closer Look

### *Conservation and Restoration*

By adapting some of our hatchery techniques, several of our facilities have played an increasing role in the restoration of declining populations of salmon. Using strategic intervention, we have prevented the extinction of some of the Pacific Northwest's salmon populations. We also supplement wild fish populations, reinforcing their ability to naturally sustain their numbers.

### *Tribal Fisheries*

In addition to enhancing fishery stocks for tribal obligations, new methods of assistance have recently been incorporated into some of our hatchery programs. For example, a specialized egg isolation unit at the Makah NFH has been built to increase the survival of Lake Ozette sockeye eggs during a sensitive developmental stage. Once this initial stage is completed, the eggs are transferred to the tribal hatchery for rearing.

### *Selective Fisheries*

Some hatcheries provide enhanced fishing opportunities for the public. Hatchery fish are often marked, by clipping fins or with coded wire tags. This enables researchers to track movements and numbers of hatchery fish. The external markings also allow fishermen to distinguish between wild and harvestable hatchery fish.